

Mission: *The Laboratory for Atmospheres is dedicated to advancing knowledge and understanding of the atmospheres of the Earth and other planets.*

1. INTRODUCTION

How can we improve our ability to predict the weather—tomorrow, next week, and into the future?

How is the Earth's climate changing? What causes such change? And what are its costs?

What can the atmospheres of distant planets teach us about our own planet and its evolution?

The Laboratory for Atmospheres is helping to answer these and other scientific questions about our planet and its neighbors. The Laboratory conducts a broad theoretical and experimental research program studying all aspects of the atmospheres of the Earth and other planets, including their structural, dynamical, radiative, and chemical properties.

Vigorous research is central to NASA's exploration of the frontiers of knowledge. NASA scientists play a key role in conceiving new space missions, providing mission requirements, and carrying out research to explore the behavior of planetary systems, including, notably, the Earth's. Our Laboratory's scientists also supply outside scientists with technical assistance and scientific data to further investigations not immediately addressed by NASA itself.

The Laboratory for Atmospheres is a vital participant in NASA's research program. The Laboratory is part of the Earth Sciences Directorate (Code 900) based at NASA's Goddard Space Flight Center in Greenbelt, Maryland. The Directorate itself is comprised of the Global Change Data Center (902); the Earth and Space Data Computing Division (930); three laboratories—the Laboratory for Atmospheres (910), the Laboratory for Terrestrial Physics (920), and the Laboratory for Hydrospheric Processes (970); and the Goddard Institute for Space Studies (GISS) in New York, New York.

In this report, you'll find a statement of our philosophy and a description of our role in NASA's mission. You'll also find a broad description of our research and a summary of our scientists' major accomplishments in 2001. The report also presents useful information on human resources, scientific interactions, and outreach activities with the outside community.

For your convenience, we have published a version of this report on the Internet. Our Web site includes links to additional information about the Laboratory's Offices and Branches. You can find us on the World Wide Web at <http://atmospheres.gsfc.nasa.gov/>